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The Evolution of Maritime Transport Demand and the Role of Mediterranean Ports

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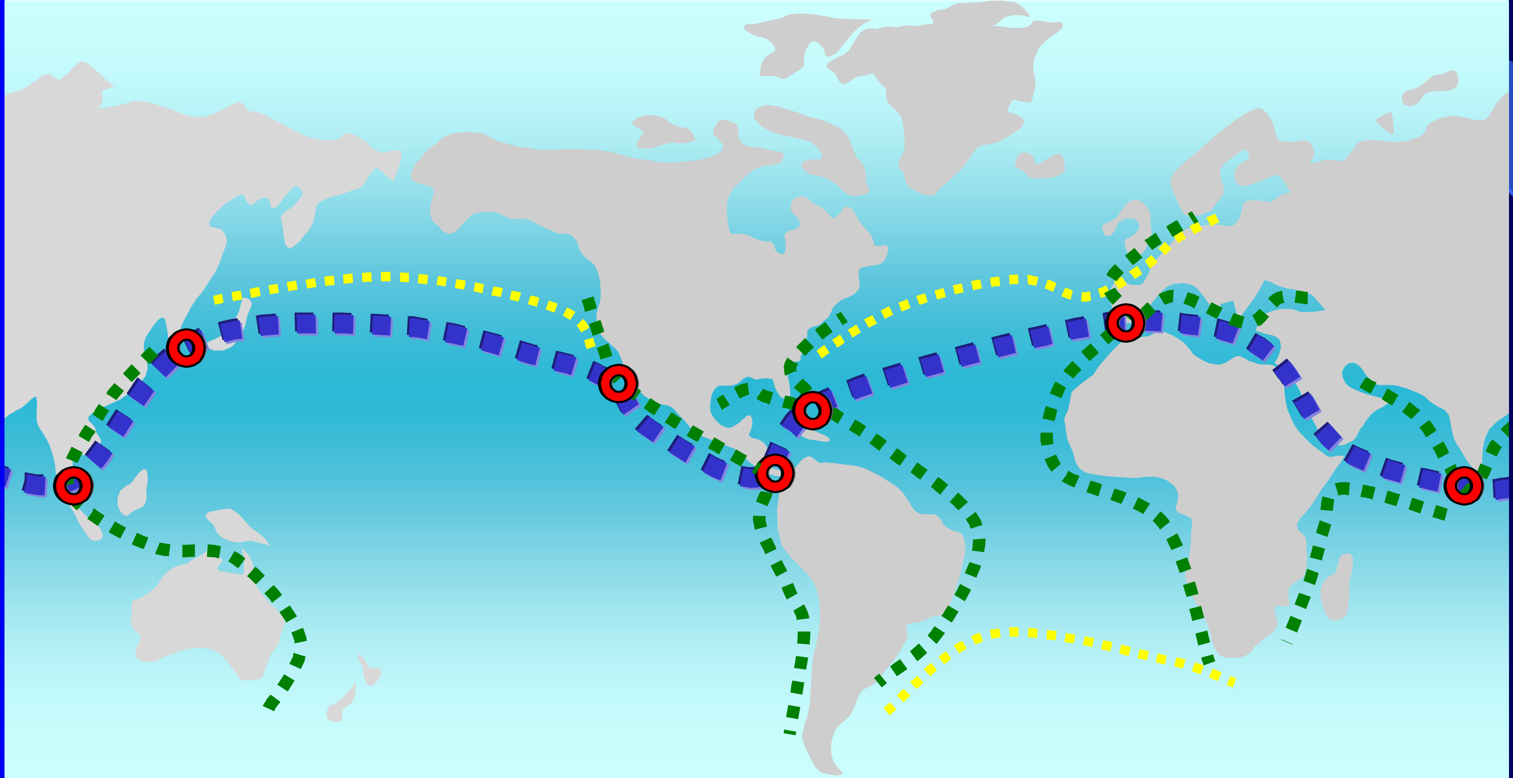
Agenda

- One-Belt-One-Road and Mediterranean Ports
- Liner Shipping: Port-to-Port or Door-to-Door?
- The Response of Ports to Concentration in Shipping
- The Italian Port Reform
- Masterplanning and City-Port Relationships
- The EU Port Regulation
- Conclusions

The Mediterranean in World Service Patterns

World Service Patterns

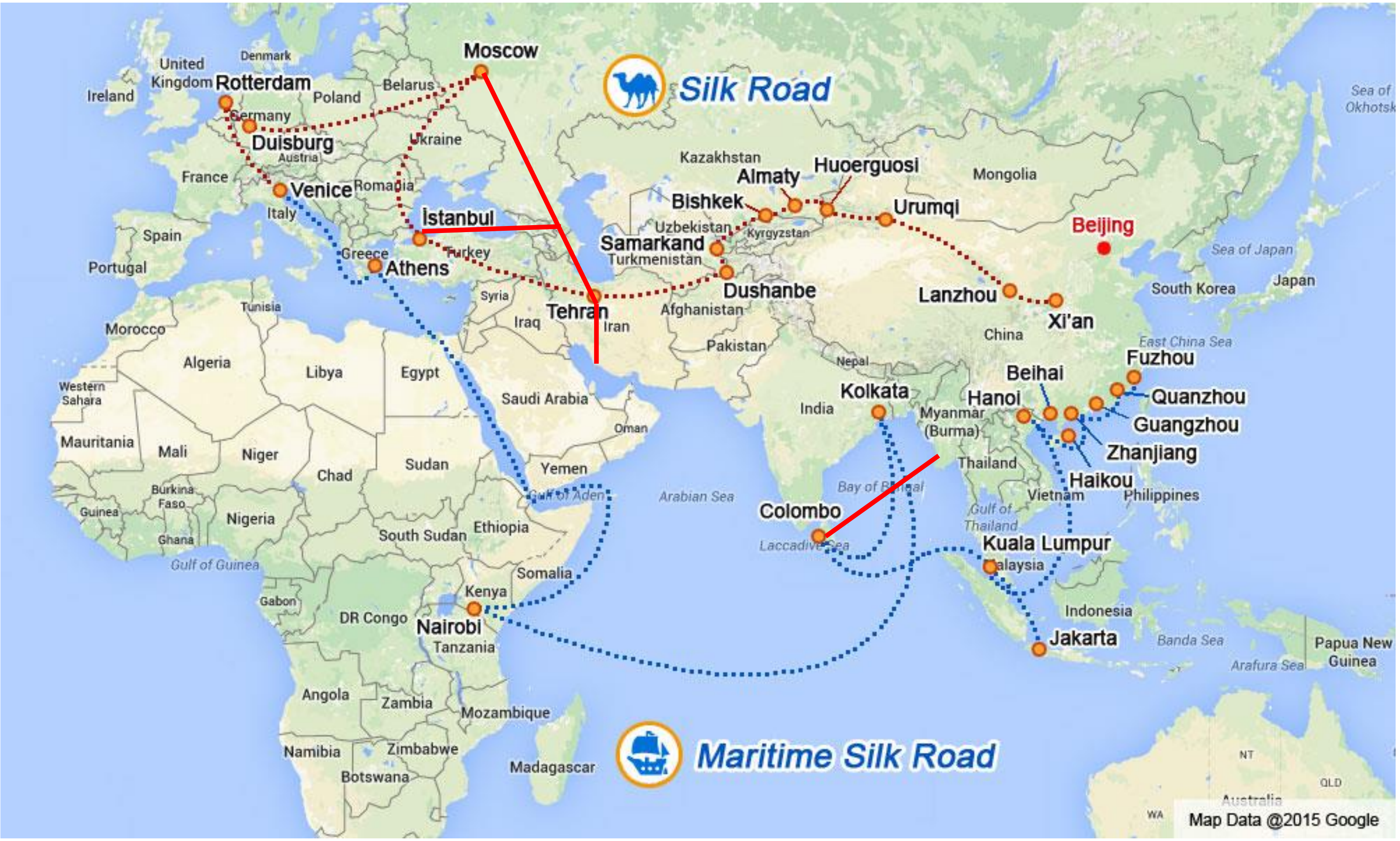


Introduction: OBOR

- OBOR is a US$ 1 trillion plan with an estimated economic multiplier of 2.5. Since the plan was announced three years ago, only 5% of this budget has been spent. There are as many plans as interested countries and China is talking to all of them. 10,000 articles have been written on the subject, but NDRC has retained only 100! Nothing is decided yet, and may analysts tend to see OBOR as a geopolitical "carrot and stick", something similar to a modern day "Marshall Plan".
- China is not investing only in African infrastructure but it transfers manufacturing activity there. By the end of 2015: 128 industrial projects in Nigeria, 80 in Ethiopia, 77 in South Africa, 48 in Tanzania and 44 in Ghana. It seems developing Africa is much easier than developing China's own northwestern territories.
- With investments in Australia (Darwin) and a continuing interest in the Nicaraguan canal, China will soon be looking at the Pacific Ocean, expanding OBOR to a global, "around-the-world" network, in competition to TPP. What are the prospects of the Panama Canal, in view also of competition from the Suez Canal? To my view, not very promising.
- Russia is squeezed from both sides: USA/NATO from the west / China-Eurasia-OBOR from the east. Russia's response: its own 'OBOR': The North-South Transport Corridor.
- Both Russia and China intend to develop their own currencies into reserve, clearing ones, away from the dollar and a crisis-prone, risky and overburdened western financial system. China in particular has created a currency clearing house in Qatar while Russia has an "oil for goods" deal with Iran. The latter country too has recently entered into a "rail for oil" barter deal with Turkey.

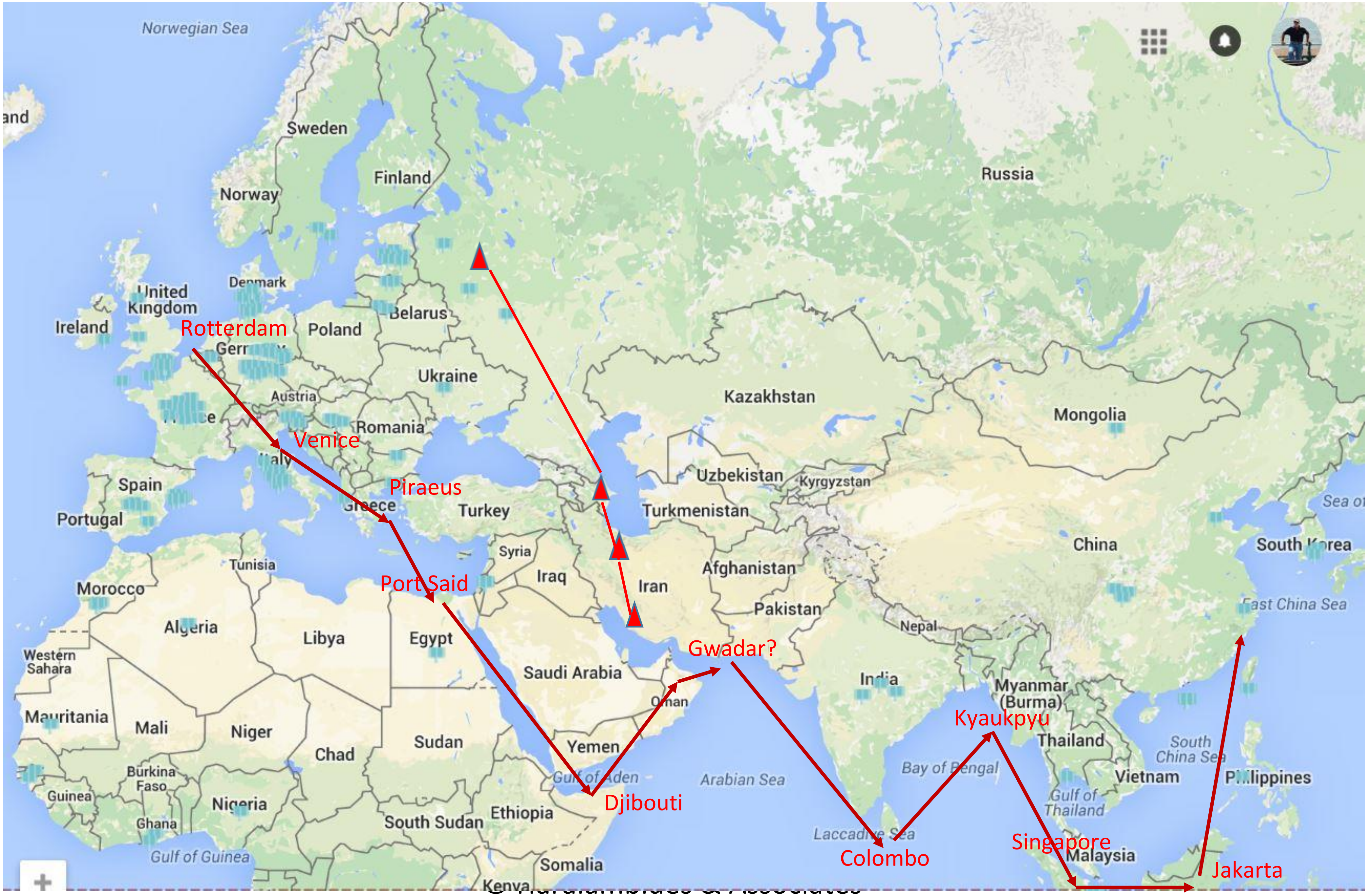
The (quasi) Maritime Silk Road: Rotterdam (Duisburg)-Venice-Piraeus-Port Said-Djibouti-Duqm-Gwadar(?) Chabahar-Bandar Abbas-Colombo-Kyaukpyu-Singapore-Jakarta-(back to) East China Sea

With port and FTZ investments in Port Said, Qatar, Oman and Djibouti, China “keeps an eye” at the ‘doors’ to the Straits of Hormuz, Red Sea, and the Mediterranean Sea. With investments in Sri Lanka and Myanmar, China ‘fences’ the Bay of Bengal (red line drawn by HH).



Other European ports may be signing cooperation agreements, but the Port of Rotterdam is ‘advisor’ to the Bank of China for the identification of attractive port investment opportunities around the world. Venice is rightfully promoting its ‘offshore terminal’, while Piraeus has already passed to COSCO)

Hercules' Chainsaw



Hercules' Chainsaw

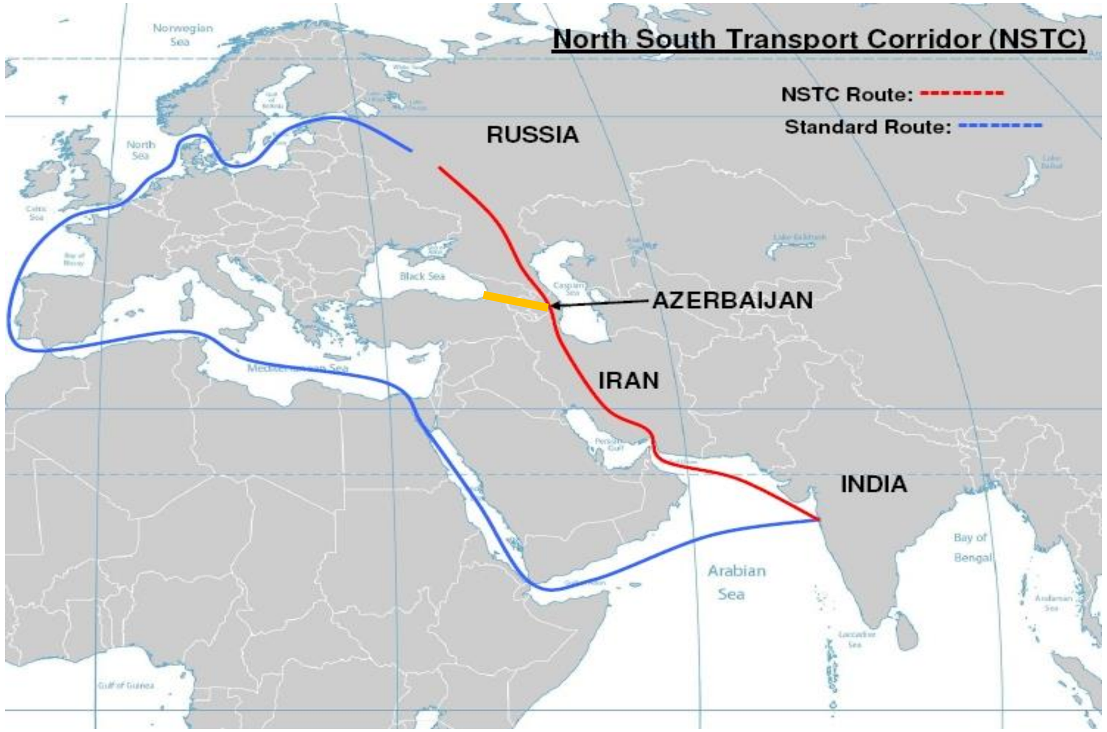
The North-South Transport Corridor: Russia's response to OBOR

Mumbai-Bandar Abbas-Tehran-Baku-Moscow

vs

Mumbai-Suez Canal-Gibraltar-English Channel- St. Petersburg-Moscow

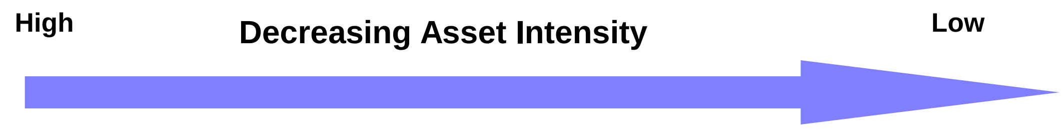
(30% cheaper and 40% shorter and less vulnerable to possible NATO or US interference)

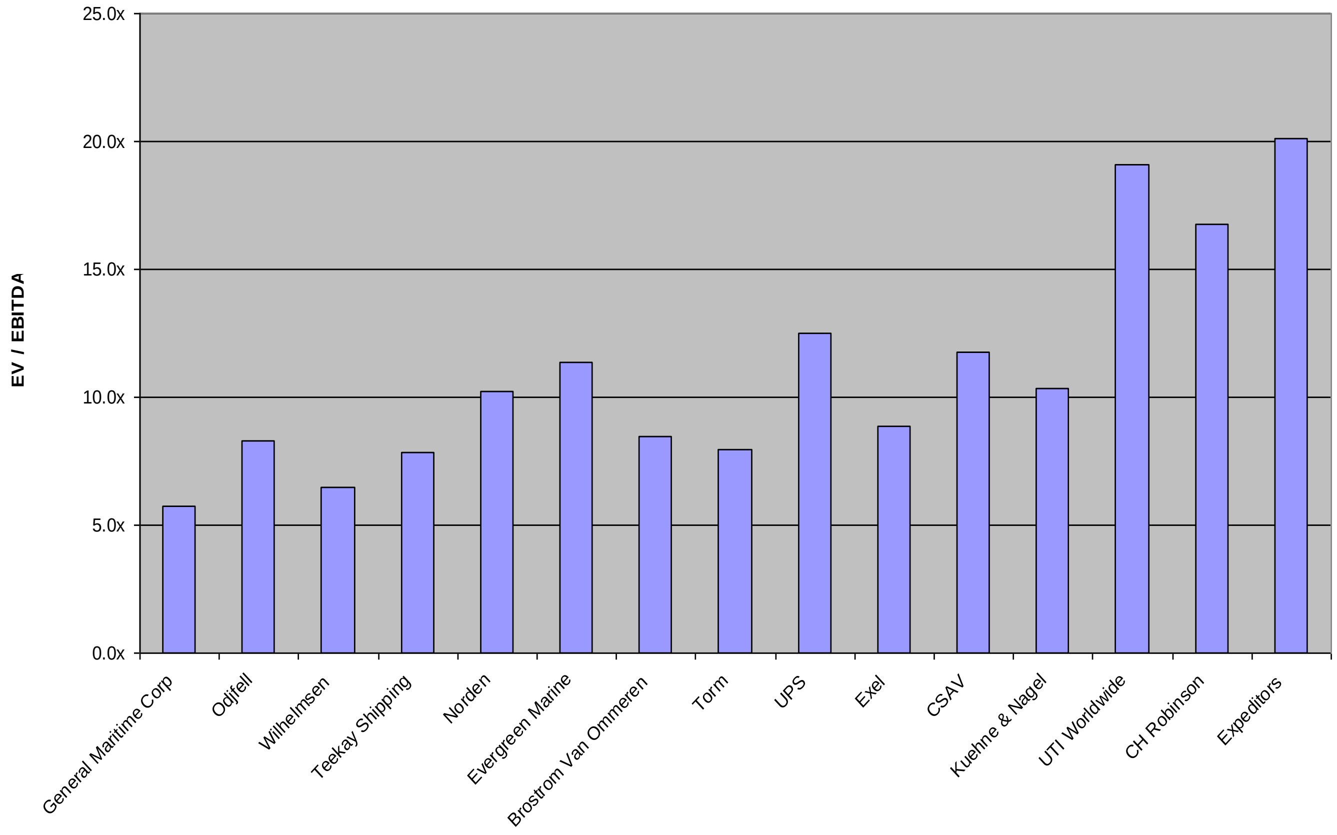


A note on Azerbaijan and Georgia: The new port of Baku (70 kms south of the city) is the country's most strategic investment, according to President Aliyev. Georgia is developing a new, US$ 2.5 billion port in the Black Sea (Anaklia), with US financing (Conti International). The rail connection between the two, south of Caucasus, is not bad at all. Would the two Seas be connected? This, to my view, would provide a very important "missing link" (yellow line by HH).

Port-to Port or Door-to-Door?

Logistics Companies tend to be higher valued than pure Transportation Companies





Companies towards the right of the chart (i.e., “asset light” companies) typically have :

- lower asset bases

- high levels of asset utilisation

- and, therefore, a higher return on equity, which, together with higher observed growth rates, boosts their market valuations

-Moreover, due to its broader diversification, logistics revenues are more stable over time

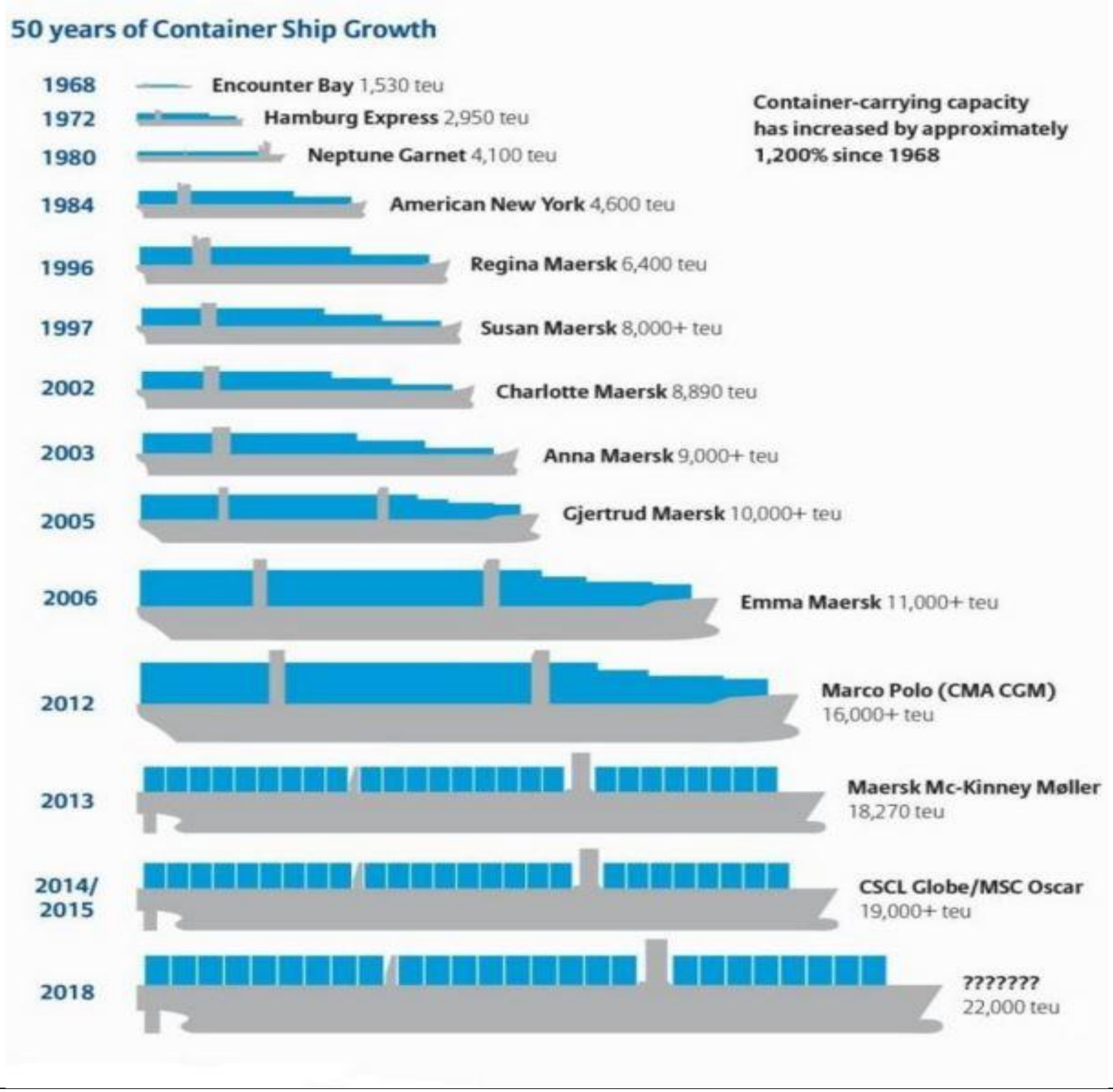
PORT-TO-PORT OR DOOR-TO-DOOR?

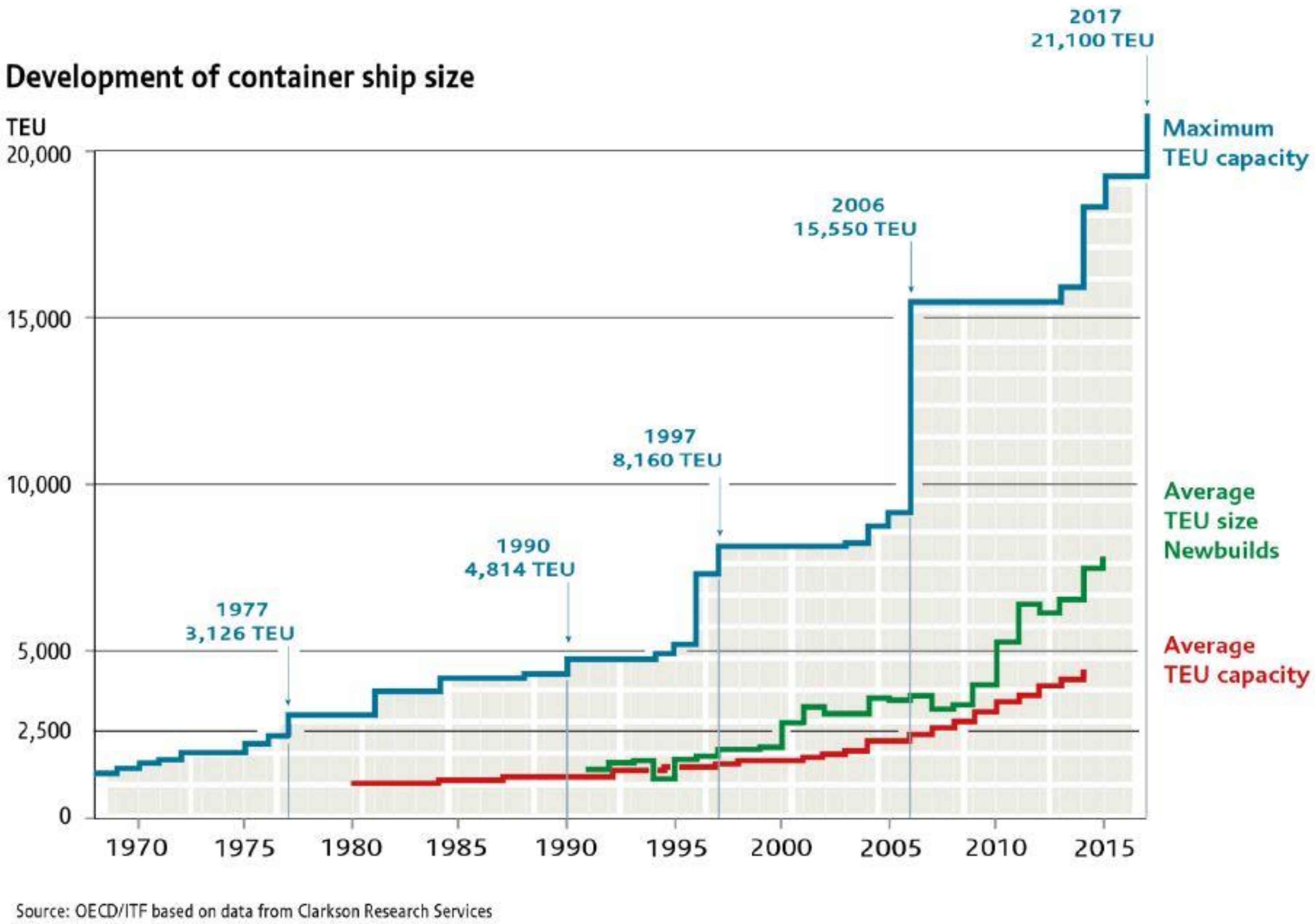
- Containerization has gradually led to the commoditization of the ocean liner service and thus to higher competition among carriers. In an effort to differentiate their service, as well as better control the supply chain, in the 1990s carriers started to invest in the other components of the supply chain, such as container terminals, distribution centres, road, rail and air transport, and in a miscellany of other logistics services, such as bar-coding, assembly, documentation, etc. Investment in logistics services and related infrastructure, rather than in ships, -which, incidentally, could be chartered-in from private equity investors (e.g. KG funds in Germany)- allowed the carrier to become more asset light, thus more agile in coping with the vagaries of the business cycle. In addition to service differentiation, vertical integration also serves in increasing both the complexity of operations and the sunk costs of aspiring new competitors (carriers) , particularly if shippers are convinced, through effective marketing, that an integrated service is the only way to better serve their requirements.

- This situation has started to change. Carriers appear to be returning back to core business, shedding the idea of vertical integration in favour of better horizontal integration (alliances) and dominance in the sector (shipping) where they have the comparative advantage. Partly, this return to roots has been the result of the weakening or banning of liner conferences, and the low freight rates and service unreliability that have ensued. Presently, you can bring a container from Hong Kong to Rotterdam with $300; far below break-even point. Laid up container tonnage is 5% of the total fleet (over one million slots) and, interestingly, it is often the largest and newest ships, such as MSC Oscar, which are laid up. To no avail, consignees are desperately looking for someone to talk to on the phone. In complex ports like Los Angeles, the terminal of arrival is often unknown until the last minute. At the other end, in Asia, to be filled, a mega ship would call at far more ports than what its size would warrant; something creating a stowage nightmare at the receiving ports. ***In short, you have a ghastly mess***[1], brought about by the shippers themselves.

[1] Lyrics from “The life I Lead” (Mary Poppins) […] A British bank is run with precision. A British home requires nothing less. Tradition, discipline and rules must be the tools; without them: disorder, catastrophe, anarchy, in short you have a ghastly mess.

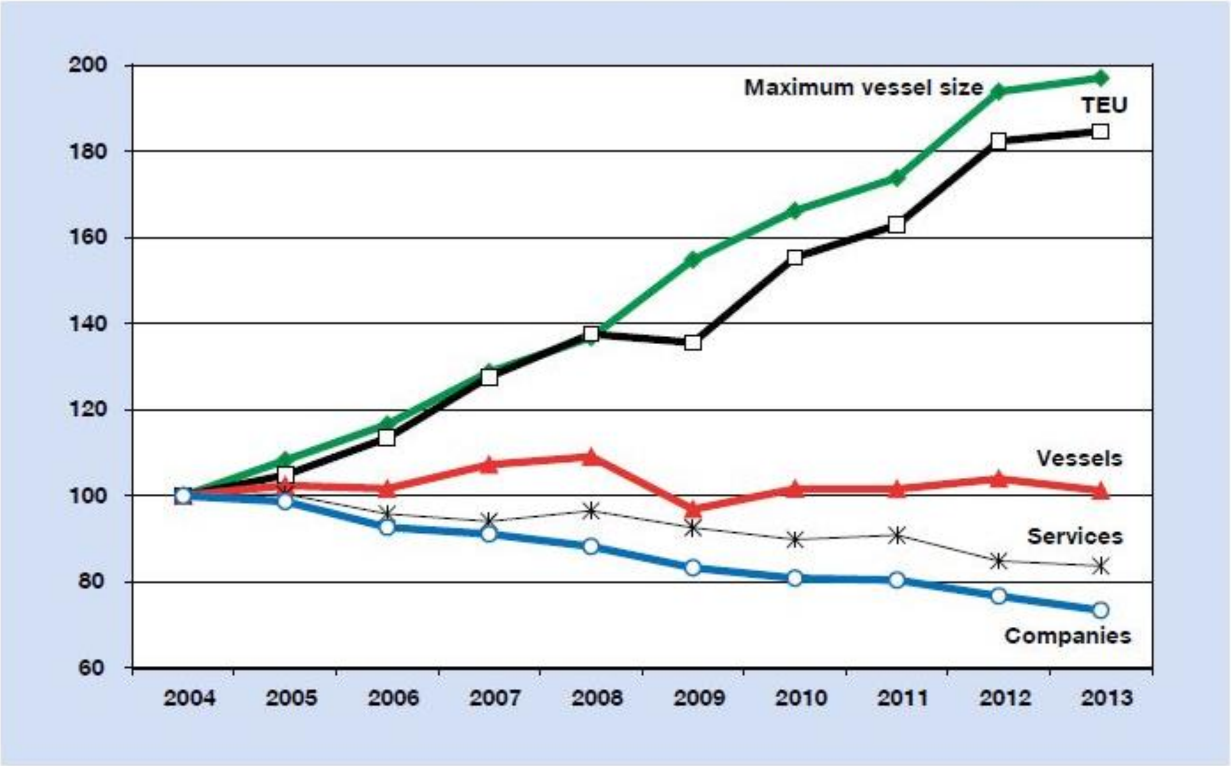
Growth in Containership Sizes





Development of container ship size
TEU
20,000
15,000
10,000
5,000
2,500
0
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2017
21,100 TEU
2006
15,550 TEU
1997
8,160 TEU
1990
4,814 TEU
1977
3,126 TEU
Maximum TEU capacity
Average TEU size Newbuilds
Average TEU capacity
Source: OECD/ITF based on data from Clarkson Research Services

Trends in containership development (1986-2013)



Source: UNCTAD, based on data provided by Lloyds List Intelligence.

While in the figure above both ships and tonnage had been increasing, here the number of ships has remained constant and the increase in demand has only been met by larger ships. However, larger ships call fewer ports (transhipment) and can be economically utilized only through shipping alliances. Thus, both the number of services (transhipment) and the number of companies serving each country (alliances) have been declining.

Diseconomies of scale of large containerships

VESSEL INCREASE AT EQUAL VOLUMES				
Parameter	Set-up 1	Set-up 2	Set-up 3	Set-up 4
Volume (TEU) per m quay length	1,200	1,200	1,200	1,200
Berth length (m)	600m	600m	600m	600m
Yearly berth volumn (TEU)	720,000 TEU	720,000 TEU	720,000 TEU	720,000 TEU
Average vessel length (TEU)	4,000 TEU	9,000 TEU	12,500 TEU	18,000 TEU
Average vessel length (m)	270m	350m	400m	400m
Average call size (containers)	1,000	2,250	3,125	4,500

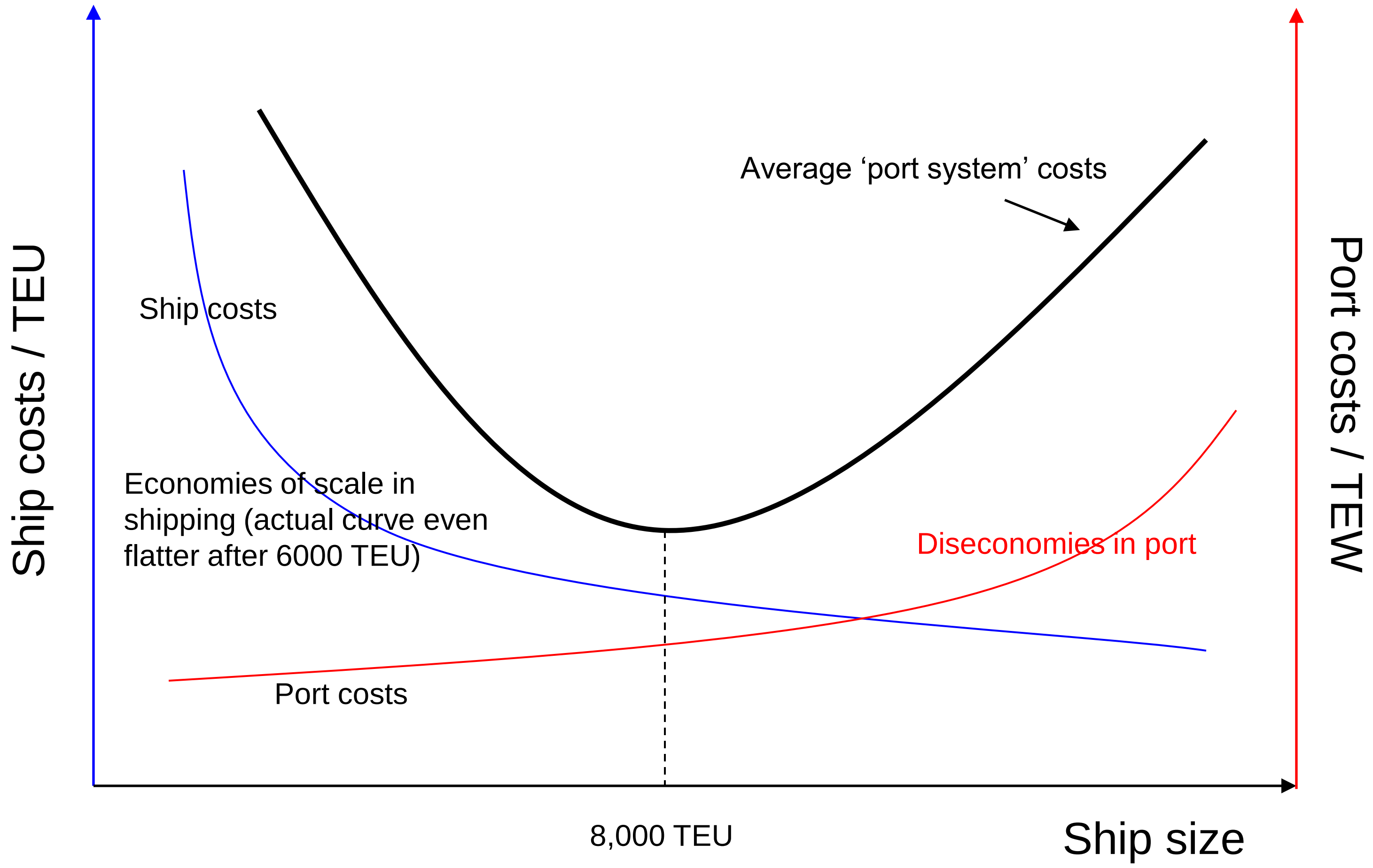
ASSUMED AND REQUIRED PRODUCTIVITY LEVELS AND CRANE DENSITY				
Parameter	Set-up 1	Set-up 2	Set-up 3	Set-up 4
Gross berth time (=net + 2 hrs.)	24	24	24	24
Resulting vessel service time	22	22	22	22
Required berth productivity (moves per hour)	45	102	142	205
Operational quay crane productivity (moves per hour)	28	30	32	30
Resulting crane density	1.6	3.4	4.4	6.8
Required number of quay cranes per ship	2.0	4.0	5.0	7.0

NUMBER OF CALLS AND NUMBER OF CRANES				
Parameter	Set-up 1	Set-up 2	Set-up 3	Set-up 4
Yearly number of calls in order to handle yearly volume	450	200	144	100
Realised berth utilisation with yearly volume (C)	55%	32%	26%	18%
Crane hours per year to handle yearly volume (C)	16,071	15,000	14,063	15,000
Required number of quay cranes	4	4	5	7
Crane utilisation (100% = 8760 hrs/y)	46%	43%	32%	24%

Source: TBA

Optimum Containership Size and Diseconomies at Ports

(the need for joint optimization)



Kendall, UNCTAD, OECD and MEL have calculated that the average container, arriving on a larger ship, takes more to handle and store. In other words, port time per TEU is an increasing function of ship size.

Diseconomies of Scale in Large Containerships

(The 6 Trends of the Second Scenario)

Trends Leading to an Expected Increase in the Market Share of Smaller Ships Targeting more Immediate Hinterlands

- World wide port development
- Regionalisation of trade
- Infrastructure development
- Road pricing
- Future of liner shipping alliances
- Information technology

Concentration in Ports 1

- Concentration in shipping was the unavoidable outcome of the abolition of liner conferences from European trades.

- The increased market power of carriers has allowed them, at times, to play one port against the other (e.g. cruise market). Ports need to "reciprocate" in the same way…

- The fear of losing traffic to competitors has led ports to price their services well bellow costs, with the taxpayer called upon to foot the bill of, often, useless investments, either politically motivated, economically irrational, or aimed to 'steal' traffic from a neighbouring port, even within the same country.

Concentration in Ports 2

- In a number of cases, countries have thought that the answer to concentration in shipping is concentration in ports.
- In Italy, for instance, the government has created 15 "port systems" in the place of the country's 24 ports.
- The obvious argument behind this idea is the rationalisation of scarce resources and the avoidance of wasteful competition on infrastructure.
- The less obvious, albeit more important, consideration though is to put forward a countervailing power against that of the carriers.
- So far so good, and integration along these lines makes good economic sense. But the risks of such a strategy are also present:

Concentration in Ports 3

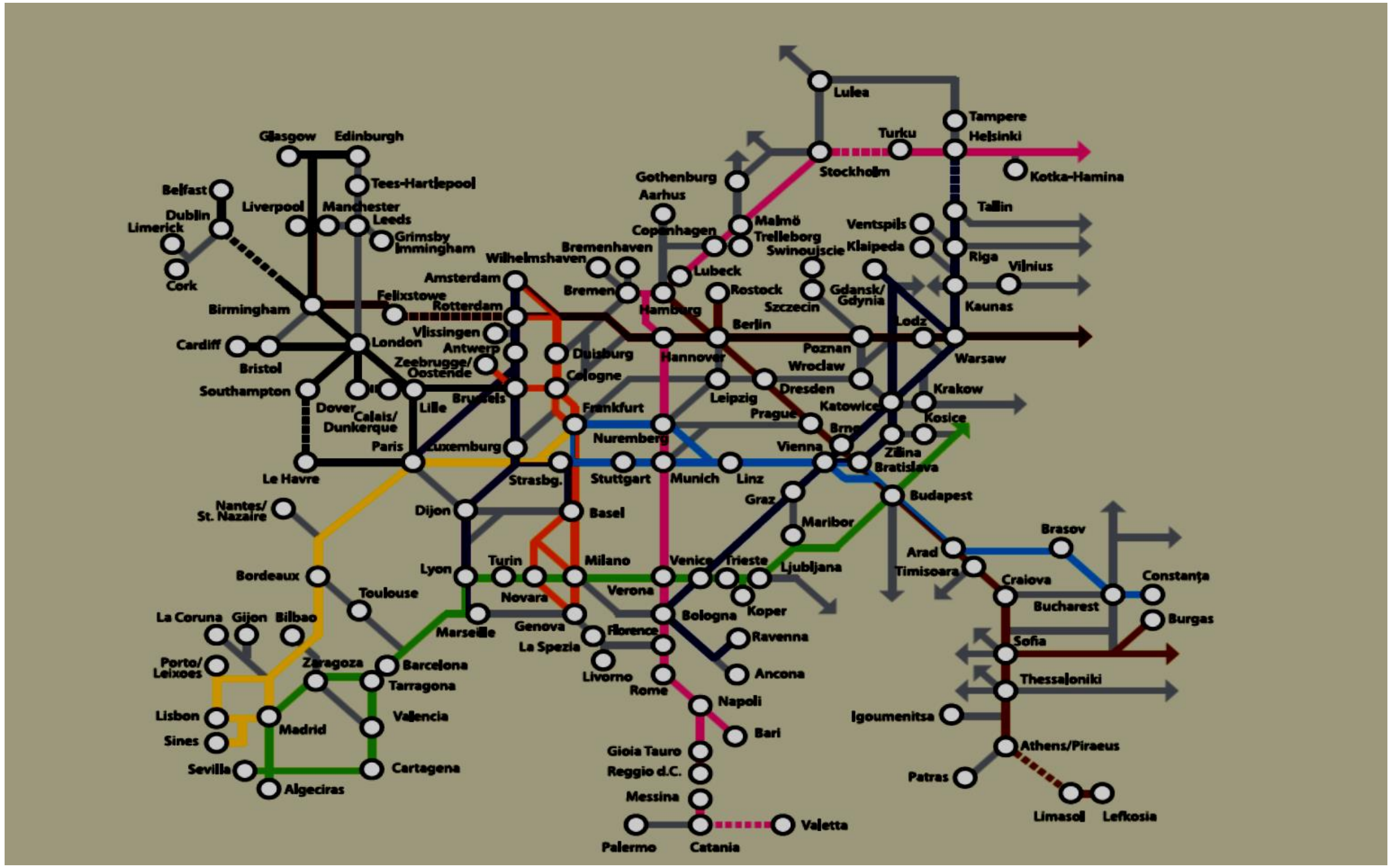
- European port policy is moving away from a centralistic port planning system to one guided by autonomy; market-driven investments; efficiency; and competition.

- The grouping of ports and the adoption of common commercial practices - apparently grouped ports would not be allowed to compete among themselves- could be seen by some as anticompetitive, taking away managerial incentive for higher efficiency and innovation.

- Thus, ports run the risk of developing into passive (bureaucratic) onlookers of developments around them, and this is exactly the (past) situation European port policy wants to change.

- Captive markets do not remain captive for long without innovation, and competition in neighbouring countries is moving ahead aggressively. In the port sector, “national grouping” for “international competiveness” remains to be proven.

Trans-European Transport (**and Ports**) Network (TEN-T)
(In order not to waste resources, you need to plan them)



TEN-T AND NATIONAL TRANSPORT AND LOGISTICS PLANNING

➢ Objectives of TEN-T

- Advance economic and social cohesion
- Harmonize and rationalize public investments in infrastructure throughout Europe
- Improve the competitiveness of European exports
- Third countries and Motorways of the Sea (MoS)

- The inclusion (and financing) of ports in TEN-T is by and large conditioned upon their modernization, liberalization of port services, reform in general, and market efficiency.

OBJECTIVES OF NATIONAL PORTS AND LOGISTICS PLAN (ITALY)

- Harmonize the country's port system to that proposed by TEN-T
- Select as ports of national interest those included as 'core' ports in TEN-T
- Strengthen the link between ports and transport and logistics service providers
- Improve the competitiveness of national exports
- Strengthen the competitiveness of national ports *vis a vis* those of competing neighbors
- Save–or so it thought- on the financial resources going into other public port administrations, i.e. those port authorities intended to be abolished and integrated under those of 'core' ports

➢ Port clusters and port aggregations

The Italian Port Reform (sic)

- A textbook mistake in economic reform
  - Reducing size against improving efficiency
- The challenge of bureaucracy
  - The Port of Rotterdam example
- The (public) financing of Italian ports (VAT receipts)
- Supply-based port development (public)
- Project financing, PPPs and demand based development (private)

MASTER-PLANNING AND CITY-PORT RELATIONSHIPS

- **MASTERPLAN: AGILITY VS. STRAIGHTJACKETING**
  - BERTH AND AREA DESIGNATIONS: BRINDISI EXAMPLES
    - TOWAGE BERTHS
    - PASSENGER TERMINAL
- **CITY-PORT CONFLICTS & EU PORT AUTONOMY CONCEPT**

Key issues in port consolidation

- Local politicians need to ensure that a ‘grouping strategy’ does not cannibalize one port to the benefit of another as a result of political power games;

- They need to explain clearly to their voters how the benefits of the grouping are going to be shared among the participating ports, cities; and citizenry;

- Hopefully, they should be able to do this keeping in mind that the best planning ever is that achieved by free albeit well-regulated markets.

Efficiency and innovation are tantamount to competition, and ports need to be allowed to compete both nationally and internationally.

Three things only are required to ensure fair competition:

- transparency in the financial flows between port and government
- Pricing for cost recovery
- an independent regulatory authority

Governments should retrench from port financing (with the exception of major works of national interest), maintaining only a regulatory role for what concerns safety and security.

If ports need to be few or many, this must be decided by markets and not by politicians.

This is exactly the spirit of the “market access regulation” of the European Commission.

The EU Port *Regulation*

In 2013, and after two unsuccessful attempts since 2001, The European Commission introduced a new "port package" known as *Regulation of the European Parliament and the Council Establishing a Framework on Market Access to Port Services and Financial Transparency of Ports*. This policy intervention aims to regulate two long-outstanding *themes* of the European port industry:

1. Liberalization of the markets for port services
2. Transparency and administrative and financial autonomy of ports

The Port *Regulation* (cont…)

- The EU port *Regulation*, addresses some of the controversies in the areas of liberalization of port services; pricing; competition; administrative simplification; financial and operational autonomy; and state aid provisions.

- To my view, although the *Regulation* is a good first step towards the long-awaited reform of the European port sector, this time too the EU non only does not go far enough but, by trying to introduce compromises and conditions of considerable **vagueness** and **ambiguity**, it renders its policy proposals rather limited in scope, in essence allowing Member States considerable leeway to continue as before if they so choose.

- Perhaps one example might serve here to carry this point across: The EU is prepared to accept Public Service Obligations (PSO), regarding technical-nautical services, as long as these serve the ***general economic interest*** and/**or *territorial cohesion***. Such concepts, however, are extremely difficult to define, let alone agree upon, particularly in view of the geographically limited scope of *technical-nautical services*, thus leaving a lot of discretion to managing (port) authorities on how they should organize the provision of such services in their port.

The European port industry has, again, been found rather reluctant to make further progress on the liberalization of port services and, as a result, the new draft regulation, being a political compromise, offers significant leeway to ports so as to keep things as they were. Possibilities to restrict liberalization and market access are grounded on:

- 1. Minimum requirements
  - ('photographic' tendering procedures)
- 2. Limitation of the number of providers
  - (competition ***for*** the market due to: master-planning; scarcity of land; berth designations. Examples: Barretta tugs – Taveri passenger terminal)
- 3. Public service obligations
  - (vagueness on what constitutes 'general economic interest' and 'affordable' price)
- 4. Internal operator
  - (conditioned upon financial transparency, in case of no commercial interest)

Port Regulation Theme 2:
Transparency; autonomy; pricing and finance

In the past 20 years I have participated in four large studies of the EC on port charging, financing and pricing, starting with the seminal work of the Commission entitled *Green Paper for Ports and Maritime Infrastructure*. Twenty years later, I can still recall the words of Neil Kinnock telling me that "<u>if you decided to get down to the issue of port pricing, I can promise you one thing: you will retire with the same subject</u>". My main concerns were exemplified in my paper "Competition, Excess Capacity and the Pricing of Port Infrastructure" published 10 years ago in *Maritime Economics and Logistics (2002) 4, 323-347. doi:10.1057/palgrave.ijme.9100053, and thoroughly revised in my new book "Port Management" (Palgrave McMillan, 2015).*

Competition, Excess Capacity and the Pricing of Port Infrastructure (1)

…The pricing strategy of a port is dependent on the way the port is financed and, ultimately, on the ownership status of the port: should, thus, a publicly owned and financed port be allowed to compete on price, for the same custom, with a privately owned port that has to charge higher prices in an effort to recover its investments? What if these ports belong to the same, economically interdependent, geographic area (e.g. the European Union)? What if the effects of strategic pricing of different ports are, at the end of the day, felt by the same consumers or taxpayers? Should ports primarily engaged in commercial operations, such as container terminals, be publicly financed or should the port user pay in full for the port services he buys? Do ports need to recover infrastructure costs through pricing? And what happens if some do and others don't, while all have to compete for the same hinterland? Is there such a thing as `efficient port pricing' and is there scope for policy intervention to ensure a level playing field?

Competition, Excess Capacity and the Pricing of Port Infrastructure (2)

I have shown that *Long-run Marginal Cost Pricing* of port infrastructure can be a powerful `pricing discipline' towards achieving cost recovery and fair competition among ports. To succeed in this, there is a need for stronger policy intervention in order to ensure greater transparency of port accounting systems, better and more harmonized port statistics, a meaningful set of state aid guidelines, and stricter application of Competition Law in port infrastructure investments.

Port Regulation: In Conclusion

- Port administrations need to assume a highly entrepreneurial and market-oriented approach
- Ports need to move towards a 'real' landlord model, with more autonomy in their financing; pricing; real estate management; and labor operations
- Emphasis on "green efficiency"
- Port labor: Advanced training of young professionals, according to ILO standards, employed in an open port labor market
- State aid guidelines and clear definition of "public vs. private" investment in the port sector
- Free –albeit well regulated- market access to port services needs to be ensured

Conclusions (1)

- Trade is structurally declining but infrastructure investments are increasing: TEN-T financing needs to apply more stringent assessments of funding requests. Infrastructure investments have long gestation periods, while short term debt accumulates fast and needs to be serviced.
- OECD forecasts that, in Europe and around the world, new port capacity planning exceeds transport demand forecasts.
- Instead of looking, perhaps too much, 'inside ourselves', a more extravert European approach is advisable, with EIB assuming a leading role in the €8 trillion transport infrastructure financing requirements of Eurasia. In addition, greater emphasis should be placed on Motorways of the Sea (MoS) and on connecting Europe with the Middle East and North Africa.
- Global shipping alliances and industry concentration in liner shipping are often leading to concentration around TEN-T ports. A more balanced port development in Europe is required, not penalizing the aspirations of peripheral ports. Through TEN-T, the role of governments and European Institutions is to smooth out regional disparities and work towards more regional cohesion. Having said this, it will be markets who decide which port survives and which perishes.
- Mega-containerships are becoming an increasing headache for both ports and shippers. It won't be long before DG-COMP, following the examples of China and Russia, takes a fresh look into global shipping alliances. A good first step would be to listen more attentively to both shippers and European manufacturers.

Conclusions (2)

- The 21st century is the century of Eurasia.
- Eurasian Infrastructure investment plans amount to 8 trillion dollars.
- "Accessibility" (and not ports) is the bottleneck to trade.
- Investors (WB, EBRD, AIIB, etc.) abound, but attention and coordination are required.
- (Lack of 'discussion' and coordination (e.g. within AIIB) are India's objections to OBOR).
- Infrastructure investments have long gestation periods, while short-term debts accumulate dangerously.
- OECD forecasts show that the supply of infrastructure outstrips trade demand.
- Infrastructure investments should not be the outcome of geopolitical and security games.
- The debt of the developing world is a cause for concern.
- China's NPLs correspond to 25% of the country's GDP.
- Western banking is still precarious.
- A new economic 'meltdown' is not out of the question; this needs to be avoided at all costs.

Thank you for your attention